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NOTES ON GEOGRAPHIC DISTRIBUTION

New record and range extension of *Scarthyla goinorum* Bokermann, 1962 (Amphibia, Hylidae) from Ouanary, French Guiana

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Abstract. French Guiana is a French overseas territory located in northern South America. Here we report the first record of *Scarthyla goinorum* (Bokermann, 1962) from this territory, which represents a range extension of 450 km northward from the nearest previously known occurrence in Amapá state, Brazil. This is also the first occurrence outside the Amazon Basin and indicates the ability of the species to disperse efficiently to other watersheds possibly via floating rafts drifting along the coast.

Key words. Amazon Basin, Guiana Shield, Coastal Forest

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INTRODUCTION

Scarthyla (Duellman & De Sá, 1988) is a Neotropical genus of frog comprising only two recognized species: *Scarthyla goinorum* (Bokermann, 1962) and *Scarthyla vigilans* (Solano, 1971). These frogs are characterized by their small size, slender body shape, unwebbed fingers, and nearly fully webbed toes (Duellman and De Sá 1988). Both species have a similar morphology but have distinct calls and morphologically distinct tadpoles (Barrio-Amorós et al. 2006; Duellman and De Sá 1988). Moreover, these two species are allopatrically distributed. *Scarthyla vigilans* is located to the north of the Andes (Colombia and Venezuela), in the Orinoco Basin, and in Trinidad and Tobago (Barrio-Amorós et al. 2006). While *S. goinorum* is widely distributed throughout the Amazon Basin (Bolivia, Brazil, Colombia, and Peru) (Carmo Telles et al. 2017; De la Riva et al. 2000; Lynch and Suaréz 2011; Upton et al. 2014).

METHODS

In December 2022, we conducted a biodiversity survey organized by the Office National des Forêts carried out in the municipality of Ouanary, in the western part of French Guiana at a place called Monts de l'Observatoire. The survey was carried out over 5 days, with a base camp and a 1 km long trail from this camp. We found one specimen of *S. goinorum* (Fig. 1). Despite significant prospecting effort, only one individual was seen and no calls were heard.

RESULTS

Scarthyla goinorum (Bokermann, 1962)

Figure 1

New records. FRANCE – French Guiana • Ouanary municipality; 04°15′13″N, 051°42′53″W; 26 m alt.; 14.XII.2023; Vincent Premel & Benoit Villette leg.; in a lowland mature forest; QM 1774.

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Figure 1. *Scarthyla goinorum* from Ouanary, French Guiana. Photo by Vincent Premel

Identification. The observed specimen matched the description by Duellman and De Sá (1988). Body elongated (SVL: 19.0 mm), slender, head (HW: 5.5 mm, HL: 5.5 mm) as wide as body longer than wide. Snout long, acuminate in dorsal view and in profile (IND: 2.0 mm). Nostril–orbit distance about 2/3 of the distance between orbit and tip of snout. Ulnar fold and tubercles absent, fingers long, slender with narrow lateral fringes extending to small round discs. Subarticular tubercles moderately large, palmar tubercle low, flat. Hind limbs moderately slender, foot length 41.4–50.5% of snout–vent length (TL: 11.5 mm ; FL: 8.0 mm). Inner tarsal fold evident on distal 2/3 of tarsus, outer metatarsal tubercle absent, inner metatarsal tubercle small, nearly round. Toes long, slender with small round discs nearly as large as those on fingers.

DISCUSSION

Besides increasing the geographic range of *Scarthyla goinorum* by more than 450 km and reporting the northernmost known population (Fig. 2), we document here the first record from the Guiana Shield, which is most likely, its range boundary. Nevertheless, more investigations are needed to know if the species extends further into French Guiana.

In recent decades, numerous naturalistic inventories have been carried out throughout French Guiana. In addition, citizen science is also a significant contribution of occurrence data (Faune-Guyane and iNaturalist, two citizen science initiatives) gathered more than 1.5 million naturalist observations in French Guiana. Despite this, there is no previous record from French Guiana of *S. goinorum* in collections or the literature. This new discovery can be explained by three main reasons:

(1) *Scarthyla goinorum* has a very low intensity call and becomes inaudible in a chorus of other species. As amphibians are mostly acoustically detected, this is potentially why this species has never been contacted before. (2) Considering the current range of *S. goinorum*, this species seems to reach its northeastern range boundary in French Guiana where it probably remains confined to its narrow northeastern corner. The extreme north-east of French Guiana is difficult to access because there is no road access to the few villages, which are only accessible by boat. These villages are surrounded by swamp forest, mangroves, or humid palm forests, which makes prospection particularly difficult. Consequently, these remote areas are still little explored compared to the rest of the territory. (3) Finally, just like *Scarthyla vigilans* (Rojas-Runjaic et al. 2008), it is possible that *S. goinorum* is under expansion, colonizing new space from the mouth of the Amazon River to the neighboring regions. Colonization can occur progressively through continuous suitable habitats or by long distance jumps on floating rafts of water hyacinth *Eichhornia* spp. (Barrio-Amorós et al. 2006; Schiesari et al. 2003) even along the coast between the Amazon River delta to French Guiana.

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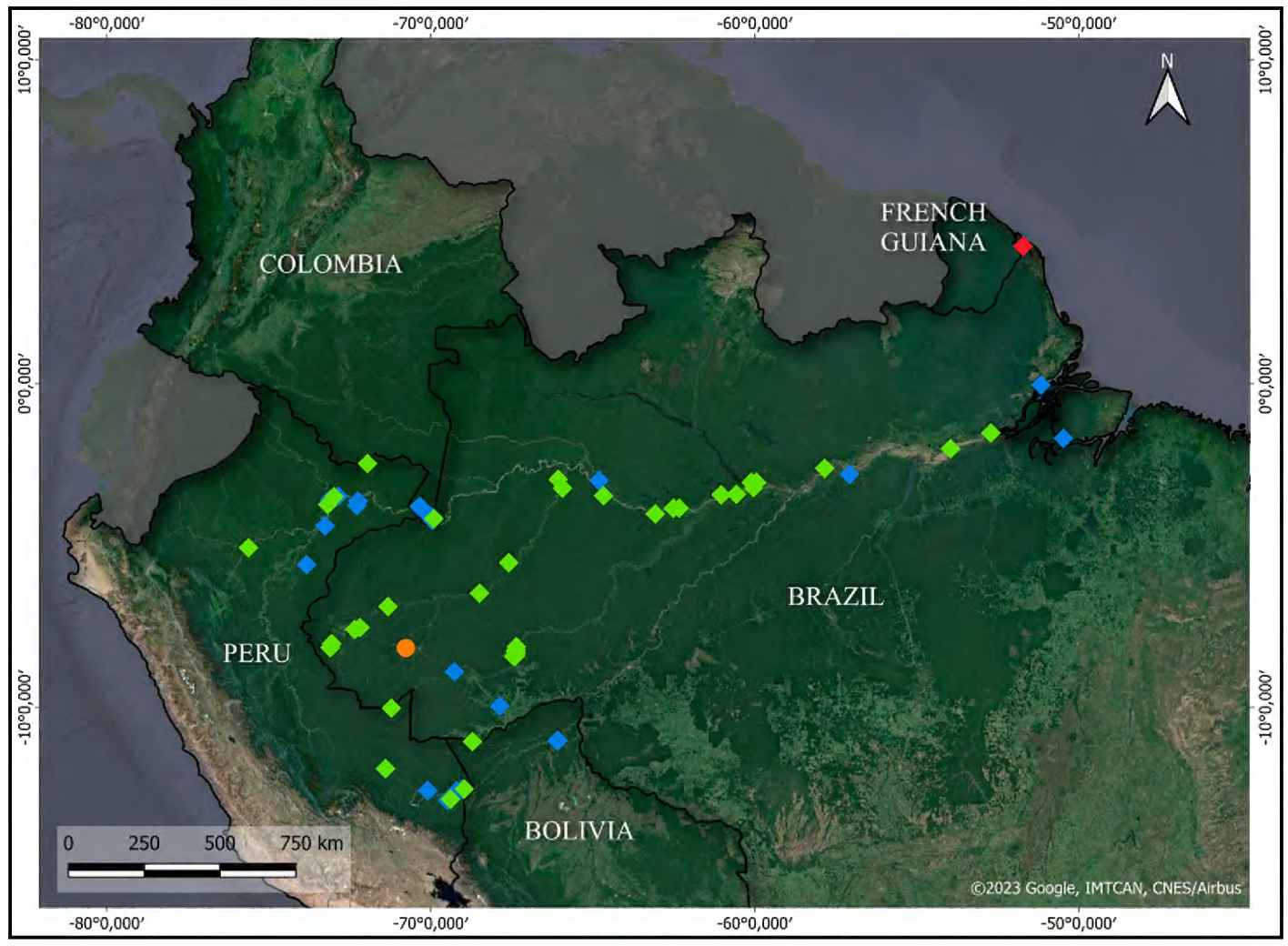

Figure 2. Occurrence record of *Scarthyla goinorum* on the Amazon basin. Green diamond: records in literature (Carmo Telles et al. 2017; De la Riva et al. 2000; Duellman 2005; Lynch and Suaréz 2011; Upton et al. 2014), blue diamond: records from iNaturalist, orange dot: type locality, red diamond: record in French Guiana.

ADDITIONAL INFORMATION

Conflict of interest

The authors declare that no competing interests exist.

Ethical statement

No ethical statement is reported.

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Author contributions

Conceptualization: VP. Investigation: BV, JP, TF, VP. Methodology: VP. Resources: VP. Supervision: VP. Writing – original draft: VP. Writing – review and editing: BV, JP, TF, VP.

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